

REMARKS

Claims 1-45 are pending in the present Application. Claims 1, 16-19, 33, 38 and 42 have been amended, Claims 15, 34, and 43 have been cancelled and no claims have been added, leaving Claims 1-14, 16-33, 35-42, and 44-45 for consideration upon entry of the present Amendment. The Specification has been amended to correct certain informalities, as explained in detail below. No new matter has been introduced by these amendments. Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

Amendments to the Claims

Claim 1 has been amended to “a data storage medium, comprising: a data layer and a substrate layer comprising a blend of poly(arylene ether) resin and poly(alkenyl aromatic) resin; wherein the substrate layer comprises a surface comprising lands and grooves, and wherein the lands and grooves comprise a pitch of about 0.05 to about 0.7 micrometer.” Support for this amendment can at least be found in Claims 1 and 15 as originally filed. No new matter has been added.

Claim 42 has been amended to “a data storage medium, comprising: a substrate layer comprising a blend of poly(arylene ether) resin and poly(alkenyl aromatic) resin; and a data layer disposed on the substrate layer, wherein the substrate layer comprises a surface comprising lands and grooves of a dimension wherein data on the data layer is able to be read using a laser having a wavelength of less than about 420 nanometers and a lens having a numerical aperture greater than about 0.8; and wherein the blend is substantially free of visible particulate impurities.” Support for this amendment can at least be found in Claims 42 and 43 as originally filed. No new matter has been added.

Claims 33 and 38 have been amended to correct certain typographical errors. Claim 33 has also been amended to contain the limitation of claim 34. No new matter has been added.

Cited Art (IDS comments)

The Examiner has requested, due to the large number of documents submitted, that the Applicants provide a concise explanation of why the documents were submitted and how they are understood to be relevant.

As is clear from 37 CFR 1.97(h), the filing of an information disclosure statement is not an admission that the information cited in the statement is material to patentability. While a detailed review of each the submitted documents has not been made by an agent or attorney associated with this case because the documents appear to relate to optical storage media in general or to the particular polymers that are used to make the instant substrates such as poly(arylene ether) polymers in particular, the references were cited in order to clearly comply with 37 CFR 1.56 because they may comprise information that the Examiner may find to be material to patentability.

Despite the Examiner's request, Applicants are confident that the Examiner has considered the totality of the submitted references in as much as the Examiner has initialed the Information Disclosure Statements.

Specification Objections

The missing U.S. serial numbers in Paragraphs [0040] and [0097] for the referenced applications were not available when this application was filed. These serial numbers have been added with this Amendment.

No new matter has been added.

Claim Rejections Under 35 U.S.C. § 112, First Paragraph

Claims 1-14 stand rejected under 35 U.S.C. § 112, first paragraph, as while being enabling for data storage media having data storage layers, allegedly does not provide enablement for those lacking data storage layers. Specifically, the Examiner alleged that Claims 1-14 are incomplete.

Claim 1 has been amended to include a data storage layer. This amendment finds support in at least Claims 1 and 15 as originally filed. Thus no new matter has been added. Applicants respectfully request reconsideration and removal of the rejections under § 112,

first paragraph, over Claim 1 and its dependent Claims 2-14 in view of this amendment.

Claim Rejections Under 35 U.S.C. § 112, Second Paragraph

Claims 1-14, 23, 26, 33, and 38 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner alleged that Claims 1-14 are incomplete and Claims 23, 26, 33, and 38 contain certain typographical errors.

In view of the above amendment to Claim 1 to include a data layer, Applicants respectfully request reconsideration and removal of the rejections under § 112, second paragraph, to Claims 1-14.

Applicants wish to thank the Examiner for pointing out the misspelling of 1,3-bis(4-hydroxyphenyl)menthane in Claims 33 and 38. Amendments have been made to correct these misspellings. No new matter has been added. However, it is respectfully noted that there is no misspelling in Claims 23 and 26. Applicants respectfully request reconsideration and removal of the rejections under § 112, second paragraph, over Claims 23, 26, 33, and 38 in view of these amendments and remarks.

Claim Rejections Under 35 U.S.C. § 102(b)

Claims 42 and 43 stand rejected under 35 U.S.C. § 102(b), as allegedly anticipated by Barzynski, et al. US 4,889,756 (hereinafter “Barzynski”). Applicants respectfully traverse this rejection.

Barzynski generally discloses a laser-optical recording material comprising (a) an optically transparent and isotropic, homogeneous substrate which is free of orientation birefringence and (b) one or more amorphous, thermally alterable recording layers (abstract). In particular, the substrate comprises a blend of 25 – 45 wt% of poly-(2,6-dimethylphenylene ether) (PPE) and a styrene polymer which is free of orientation birefringence and contains several additional functional groups such as cyanoethylene groups and 1-methyl-1-

phenylethylene groups (Col. 4, Lines 19-66).

To anticipate a claim, a reference must disclose each and every element of the claim. *Lewmar Marine v. Varient Inc.*, 3 U.S.P.Q.2d 1766 (Fed. Cir. 1987).

Barzynski fails to disclose each and every element of Claim 42 as amended. In particular, Barzynski does not disclose the substrate wherein the blend is substantially free of visible particulate impurities of the amended Claim 42.

Low particulate concentration is desirable for an aesthetically pleasing product and to provide sufficient surface quality to maintain read accuracy, data storage, and replication (Paragraph [0005]). Particulate impurities such as gels and black specks at the surface of the molded substrate may interfere with the surface quality of the land and groove pattern and this is especially true as the land and groove patterns are reduced in size to smaller tracking pitches, groove depths, and widths to accommodate higher areal density (Paragraph [0021]). As used in the instant application, the term “substantially free of visible particulate impurities” means that a ten gram sample of a polymeric material dissolved in fifty milliliters of chloroform (CHCl_3) exhibits fewer than 5 visible specks when viewed with the aid of a light box. Particles visible to the naked eye are typically those greater than 40 micrometers in diameter (Paragraph [0041]). Amended Claim 42 requires that the substrate blend is substantially free of visible particulate impurities.

In contrast, Barzynski does not in any way discuss particulate impurities in the substrate blend or the molded substrate, let alone the specific requirement of Claim 42. Since this reference fails to teach this element, Barzynski does not anticipate instant Claim 42.

Therefore, Applicants respectfully request reconsideration and removal of the § 102(b) rejection over Claim 42.

Claims 42 and 43 stand rejected under 35 U.S.C. § 102(b), as allegedly anticipated by Niwano et al. US 4,845,142 (hereinafter “Niwano”). Applicants respectfully traverse this rejection.

Niwano generally discloses optical devices such as optical disk substrates and lenses which are prepared by molding a resin composition comprising 100 parts by weight of a

mixture of 30 to 70% by weight of a polymer in which 50% by weight or more is composed of aromatic vinyl monomer units and 70 to 30% by weight of a polyphenylene ether, and 0.005 to 2 parts by weight of an organic carboxylic acid (abstract).

However, Niwano fails to disclose the particular substrate wherein the blend is substantially free of visible particulate impurities of the amended Claim 42. As presented above, surface quality of molded substrate is of great importance and it is highly desirable that the substrate blend is substantially free of visible particulate impurities. Since Niwano fails to teach the element regarding particulate impurities in the substrate blend, this reference does not anticipate the instant Claim 42.

Therefore, Applicants respectfully request reconsideration and removal of the § 102(b) rejection over Claim 42.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 1-3, 5-18, and 42-43 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Niwano and Nishikawa et al. WO 02/086882 (US2004/0076083) (hereinafter “Nishikawa”). Applicants respectfully traverse this rejection.

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a *prima facie* case of obviousness, i.e., that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

Moreover, many elements may be found in the prior art, but more is needed to show obviousness than the mere identification of the elements. See, *In Re Kahn*, --- F.3d ----, 2006 WL 708687, (C.A.Fed. Mar. 22, 2006). As noted in *Kahn*, a *prima facie* case of obviousness

requires an explanation of the basis of the rejection in order to guard against hindsight reasoning. *Id.* at *6. A “rationale, articulation, or reasoned basis” supports a prima facie case, not mere conclusory statements. *Id.* at *7.

The Examiner rejected Claims 1-3, 5-18, and 42-43 based on a combination of elements disclosed in Niwano and Nishikawa. However, the Examiner has not made out a prima facie case of obviousness as there was no motivation or suggestion to combine or modify Niwano and Nishikawa to arrive at the instant claims. The Examiner alleged that it would have been obvious to combine Niwano and Nishikawa by using the substrate material of Niwano and the groove size of Nishikawa (Office Action dated 2/1/2006, first paragraph on page 5). Applicants respectfully point out that the Examiner only made the above conclusory statement but did not provide a basis on which it concluded that it would have been obvious to make the claimed invention. As presented above, this kind of hindsight obviousness analysis is not permitted.

Niwano discloses a disk substrate of polymer composed of aromatic vinyl monomer, poly(phenylene ether) resins, and an organic acid having lands and grooves wherein the lands and grooves comprise a pitch of about 1.6 micrometers (Niwano, Col. 8, lines 1-16). However, Niwano does not disclose lands and grooves comprising a pitch of about 0.05 to 0.7 micrometer of the instant Claim 1.

Nishikawa discloses a magneto-optical recording medium comprising a polycarbonate substrate having lands and grooves and wherein the lands and grooves comprise a pitch of about 0.54 micrometer (Nishikawa, paragraphs [0166] to [0167]). However, Nishikawa does not disclose a substrate layer comprising the poly(arylene ether)/poly(alkenyl aromatic) blend of the instant claims.

With regard to instant Claim 1, there was no motivation or suggestion to combine Niwano and Nishikawa as there is not suggestion or motivation that the materials used in each reference are substitutable, especially for disk substrates requiring the exacting requirements of narrow pitch size or particulate purity. Nishikawa teaches pitch size of 0.54 micrometer, but the substrate material disclosed is polycarbonate. It does not in any way teach or suggest the use of the poly(arylene ether)/poly(alkenyl aromatic) blend. Although Niwano teaches disk substrates can

be prepared containing a mixture of polymer composed of aromatic vinyl monomer, poly(phenylene ether) resins, and an organic acid, it does not teach or suggest that the lands and grooves can have a pitch smaller than 1.6 micrometers. Even though Nishikawa's polycarbonate has been prepared into disk substrates having reduced pitch size, such a result does not provide motivation, suggestion, or expectation of success to prepare other polymeric materials into disk substrates having the same pitch requirement, let alone the particular polymer mixture of Niwano.

Thus, a skilled artisan would not be motivated to use the polystyrene/poly(phenylene ether) blends of Niwano to make disk substrate with small pitches (0.54 micrometer) disclosed in Nishikawa as Nishikawa uses polycarbonate, a very different material from polystyrene/poly(phenylene ether). It would not have been obvious for a skilled artisan to combine or modify Niwano and Nishikawa to arrive at the instant Claim 1 and dependent Claims 2-3, 5-14, and 16-18.

With regard to amended Claim 42, it is respectfully argued that Niwano and Nishikawa fail to teach all elements of the instant claim. As mentioned, establishing a prima facie case of obviousness requires that all elements of the invention be disclosed in the prior art. *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).

Neither Niwano nor Nishikawa teaches that the substrate blend is substantially free of visible particulate impurities of the instant Claim 42. As this particular element is not taught or suggested by the cited references, instant Claim 42 would not have been obvious.

Therefore, Applicants respectfully request reconsideration and removal of the § 103(a) rejections over Claims 1-3, 5-14, 16-18, and 42.

Claims 1-21, 27-30, and 42-45 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Niwano and Ohgo US 2003/0113671 (hereinafter "Ohgo"). Applicants respectfully traverse this rejection.

Ohgo generally discloses a manufacturing method for an optical disc master, in which a photoresist layer is formed on a substrate, and then a laser beam having a wavelength of 200 to 300 nm is exposed to the photoresist layer to form thereon a latent image corresponding to an information signal, and then the latent image is developed with an alkaline aqueous

solution to form a convex-concave pattern (abstract). In particular, Ohgo discloses a substrate material of polycarbonate and acrylic resin, and an optical disc master having a continuous groove having a track pitch of 0.32 micrometer (Ohgo, paragraphs [0012], [0068]). However, Ohgo does not disclose a substrate layer comprising poly(arylene ether)/poly(alkenyl aromatic) blends.

The Examiner alleged that it would have been obvious to combine Niwano and Ohgo by using the substrate material of Niwano and the groove size of Ohgo (Office Action dated 2/1/2006, first paragraph on page 6). Applicants respectfully point out that the arguments made previously in response to the rejections in view of Niwano and Nishikawa are applicable here as Ohgo only discloses polycarbonate and acrylic resin as substrate materials. No suggestion is made to use other materials, such as those used by Niwano. For reasons presented above, it would not have been obvious for a skilled artisan to combine Niwano and Ohgo to arrive at the instant independent Claims 1 or 44.

With regard to amended Claim 42, the claim has not been rendered obvious as Niwano and Ohgo fail to teach all elements of the instant claim.

Neither Niwano nor Ohgo teaches that the substrate material is substantially free of visible particulate impurities of the instant Claim 42. As this particular element is not taught or suggested by the cited references, instant Claim 42 would not have been obvious.

Therefore, Applicants respectfully request reconsideration and removal of the § 103(a) rejections over Claims 1-14, 16-21, 27-30, 42, and 44-45.

Claims 1-21, 25, 27-31, and 33-45 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Niwano and Ohgo, in view of Saito et al. US 2003/0003261 (hereinafter "Saito"). Applicants respectfully traverse this rejection.

Saito generally discloses an optical recording medium including a substrate having successively disposed thereon a light-reflecting layer, a recording layer and a cover layer

(abstract). However, Saito does not disclose the use of the poly(arylene ether)/poly(alkenyl aromatic) blend.

For reasons presented above, it would not have been obvious for a skilled artisan to combine Niwano and Ohgo to arrive at the instant Claims 1 or 44. There was no motivation to combine Niwano and Ohgo as Ohgo teaches the use of polycarbonate and acrylic resin, but in no way suggests the use of the polystyrene/poly(phenylene ether) blends of Niwano.

Saito does not cure the deficiency of Ohgo since Saito also teaches the use of polycarbonate and other resins that are not polystyrene/poly(phenylene ether) mixtures. Saito fails to suggest the use of the polystyrene/poly(phenylene ether) blends of Niwano having a small pitch requirement. Thus a skilled artisan would not have been motivated to combine Niwano with either Ohgo or Saito to render obvious independent Claims 1, 38, and 44 and their dependent claims.

With regard to Claims 33-41, independent Claim 33 is directed to a data storage medium exhibiting a radial tilt change value after 96 hours at 80°C of less than or equal to 0.35 degree at a radius of 55 millimeters. None of the three cited references discloses this required element. As the cited references fail to teach all elements of the instant claim, Claim 33 and dependent Claims 34-41 are not obvious over Niwano, Ohgo, and Saito.

With regard to Claim 42, none of the three cited references discloses that the material used for the substrate is substantially free of visible particulate impurities, a requirement of the instant claim. As the cited references fail to teach or suggest all elements of the instant claim, Claim 42 is not obvious over Niwano, Ohgo, and Saito.

Therefore, Applicants respectfully request reconsideration and removal of the § 103(a) rejections over Claims 1-14, 16-21, 25, 27-31, 33, 35-42, and 44-45.

Claims 1-31 and 33-45 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Niwano and Ohgo, in view of Saito, further in view of Ueda et al. JP 2000-315891 (hereinafter the “Ueda”) and Ogawa et al. US 2001/0039313 (hereinafter the “Ogawa”). Applicants respectfully traverse this rejection.

Ueda discloses that polystyrene glycol and polycarbonate mixtures are useful for optical recording media substrates. However, this reference does not disclose the use of the poly(arylene ether)/poly(alkenyl aromatic) blend as substrates.

Ogawa generally discloses a polycarbonate resin and its use for optical articles such as optical discs ([0002]). However, this reference also does not disclose the use of the poly(arylene ether)/poly(alkenyl aromatic) blend as substrates.

Thus Ueda and Ogawa fail to cure the deficiencies of Niwano, Ohgo, and Saito as these two additional references also fail to provide suggestion or motivation to use the poly(arylene ether)/poly(alkenyl aromatic) blend to make media substrates with smaller pitches. The new references also fail to teach or suggest a substrate that is substantially free of visible particulate impurities. Finally, they fail to teach or suggest a data storage medium exhibiting a radial tilt change value after 96 hours at 80°C of less than or equal to 0.35 degree at a radius of 55 millimeters. Thus, instant claims have not been rendered obvious over Niwano, Ohgo, Saito, Ueda, and Ogawa.

Therefore, Applicants respectfully request reconsideration and removal of the § 103(a) rejections over Claims 1-14, 16-31, 33, 35-42, and 44-45.

Claims 1-45 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Niwano and Ohgo, in view of Saito, further in view of Ueda and Ogawa, further in view of Mino et al. US 2002/0176957 (hereinafter “Mino”), Dris et al. US 2005/0117405 (hereinafter “the ‘405 application”) or Dris et al. WO 03/021588 (hereinafter “the ‘588 application”). Applicants respectfully traverse this rejection.

Applicants respectfully point out that the ‘405 reference would only be prior art under 35 U.S.C. §102(e) as its publication date of 6/2/2005 is later than the filing date of the instant application of 8/26/2003. According to MPEP 706.02(l)(1), effective November 29, 1999,

subject matter which was prior art under former 35 U.S.C. 103 via 35 U.S.C. 102(e) is now disqualified as prior art against the claimed invention if that subject matter and the claimed invention “were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.” The ‘405 application and the instant application were commonly owned by General Electric at the time the invention of the instant application was made. The Statement of Common Ownership is submitted along with this Amendment. In light of the evidence of common ownership, the ‘405 application should be disqualified as a 35 U.S.C. 103 reference.

Mino generally discloses an optical information recording medium including a reflective film, a recording film and a protective film on a substrate (abstract). Mino discloses smaller pitch size, but fails to disclose the use of the poly(arylene ether)/poly(alkenyl aromatic) blend as substrate material.

The ‘588 application generally discloses a storage medium for data with improved dimensional stability. The ‘588 application does disclose the use of the poly(arylene ether) and alkenyl aromatic polymers as media substrates. But no particular pitch requirements are disclosed.

Thus Mino and the ‘588 application fail to cure the deficiencies of Niwano, Ohgo, and Saito as these three additional references also fail to provide suggestion or motivation to use the blend of poly(arylene ether) resin and poly(alkenyl aromatic) resin to make media substrates with smaller pitches. The additional references also fail to teach or suggest each and every limitation of independent Claims 33 and 42, that is a blend of poly(arylene ether) and poly(alkenyl aromatic) which is substantially free of visible particulate impurities. Thus, instant claims are not obvious over Niwano, Ohgo, Saito, Mino, and the ‘588 application.

Therefore, Applicants respectfully request reconsideration and removal of the § 103(a) rejections.

Claims 42 and 43 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Feist et al. US 2002/0094455 (hereinafter the “Feist”). Applicants respectfully traverse this rejection.

Feist generally discloses a storage media comprising a substrate comprising at least one plastic resin portion, wherein the plastic resin portion comprises poly(arylene ether) and a styrene material selected from the group consisting of polystyrene, styrenic copolymer(s), and reaction products and combinations comprising at least one of the foregoing styrene material(s), and at least one data layer on the substrate (abstract).

Feist does not render amended Claim 42 obvious as this reference fails to teach all elements of the instant claim. In particular, Feist fails to disclose the substrate blend which is substantially free of visible particulate impurities of the instant Claim 42. Thus instant Claim 42 is not obvious over Feist.

Claims 1-21, 27-30, and 42-45 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Feist and Ohgo. Applicants respectfully traverse this rejection.

Feist and Ohgo fail to provide motivation to combine the two references to arrive at the instant claim. Feist discloses a substrate material comprising poly(arylene ether) and a styrene material and a pitch of 0.8 micrometer (Feist, paragraph [0049]). However, this reference does not disclose or suggest pitch sizes of 0.05 to 0.7 micrometer of the instant claim. Ohgo teaches polycarbonate and acrylic resin as disk substrate material, but not the blend of poly(arylene ether) and styrene resin.

For reasons presented above, polycarbonate and the blend of poly(arylene ether) and styrene resin are different polymeric materials with different chemical and physical properties. Neither reference provides suggestion or motivation to combine the two references to arrive at the instant claims. Thus 1-14, 16-21, 27-30, 42, and 44-45 are not obvious over Feist and Ohgo.

Claims 1-21, 25, 27-31, and 33-45 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Feist and Ohgo, further in view of Saito. Applicants respectfully traverse this rejection.

As presented above, there was no motivation to combine Feist and Ohgo as polycarbonate and acrylic resin are different polymeric materials with respect to the blend of

poly(arylene ether) and styrene resin, having different chemical and physical properties. There is no suggestion that these materials are substitutable when it comes to substrates requiring a small pitch. Saito also fails to provide suggestion or motivation to use the blend of poly(arylene ether) and styrene resin as substrate with smaller pitches. Furthermore, none of the references teach or suggest the material of independent Claims 33 and 42 which are substantially free of visible particulate impurities. Thus 1-14, 16-21, 25, 27-31, 33, 35-43, and 44-45 are not obvious over Feist, Ohgo and Saito.

Claims 1-21, 27-30, and 42-45 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Hay et al. US 2002/0197438 (hereinafter the “Hay”) and Ohgo. Applicants respectfully traverse this rejection.

Hay generally discloses a storage media having a radial deviation of less than or equal to about 1.15 degrees at a radius of 55 mm. However, this reference does not disclose a pitch size of 0.05 to 0.7 micrometer. Although Ohgo teaches small pitch sizes, it teaches the use of polycarbonate and acrylic resin as substrate material, not the blend of poly(arylene ether) and styrene resin.

For reasons presented above, there would have been no motivation to combine the two references as polycarbonate and acrylic resin are different polymers from the blend of poly(arylene ether) and styrene . They have different properties and there would have been no reasonable expectation of success to combine the references as there is no suggestion that the substrate materials are substitutable, especially with regard to the need for narrow pitch sizes.

Additionally, none of the references teaches or suggests the requirement of the substrate material being substantially free of visible particulate impurities.

Therefore, Applicants respectfully request reconsideration and removal of the § 103(a) rejections.

Double Patenting

Claims 1-21, 27-30, and 42-45 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-32 of

copending Application No. 10/648540 (US 2005/0046056). No claims are currently allowed in this case.

Claims 1-21, 27-30, and 42-45 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-29 of copending Application No. 10/648604 (US 2005/0046070). No claims are currently allowed in this case.

Claims 1-21, 27-30, and 42-45 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-49 of copending Application No. 11/151494 (US 2005/0233151). No claims are currently allowed in this case.

Claims 1-21, 27-30, and 42-45 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-37 of copending Application No. 10/063004 (US 2002/0094455). No claims are currently allowed in this case.

Claims 1-21, 27-30, and 42-45 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of copending Application No. 10/922194 (US 2005/0064129). No claims are currently allowed in this case.

Claims 1-21, 27-30, and 42-45 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10/986611 (US 2005/0129953). No claims are currently allowed in this case.

Applicants respectfully request that the Examiner withdraw all of the above provisional obviousness-type double patenting rejections until the claims are in final form and condition for allowance; until such time, there is no way to determine whether a double patenting issue exists for pending, unallowed claims. MPEP § 804.01.I(B)(1).

Claims 1-21, 27-30, and 42-45 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 7-16,

18-24, and 26-62 of copending Application No. 10/648640 (US 2005/0049362) (hereinafter “the ‘640 application”) in view of Feist and Ohgo. Applicants respectfully traverse this rejection.

Claims 1-3, 7-16, 18-24, and 26-60 of the ‘640 are directed to a method of preparing a polymeric mixture of a poly(arylene ether) and a poly(alkenyl aromatic). Claims 61 and 62 of the ‘640 application are directed to an article and a data storage medium comprising the polymeric mixture of poly(arylene ether) and a poly(alkenyl aromatic). Arguably, the closest claims of the ‘640 application to the present claims are Claims 61 and 62. Neither claim teaches or suggests the particular pitch required by independent Claims 1 and 44. Independent Claim 42 of the instant application is directed to a data storage medium where the data layer can be read using a laser with a particular wavelength and a lens having a particular aperture. None of the claims of the ‘640 application teach or suggest these requirements. The combination of the ‘640 application and Feist and Ohgo also do not render obvious the claims. Particularly, as previously discussed above, Feist and Ohgo do not render the claims obvious. The additional teaching of the claims of the ‘640 patent do not remedy the lack of suggestion or motivation to combine the references. Ohgo teaches polycarbonate and acrylic resin as disk substrate material, but not the blend of poly(arylene ether) and styrene resin. Feist discloses a substrate material comprising poly(arylene ether) and a styrene material having a pitch of 0.8 micrometer (Feist, paragraph [0049]). Although smaller pitch sizes are taught by Ohgo for polycarbonate and acrylic resin substrates, there is no suggestion or motivation to use the material of Feist or the ‘640 application. At best, it would be an obvious to try scenario. Accordingly, the Applicants respectfully request reconsideration and removal of the double patenting rejection over independent claims 1, 42, and 44 and their dependent claims. Accordingly, reconsideration and removal of the obviousness type double patenting rejections are requested.

Claims 1-21, 27-30, and 42-45 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-49 of copending Application No. 10/648647 (US 2005/0049333) (hereinafter “the ‘647

application”) in view of Feist and Ohgo. Applicants respectfully traverse this rejection.

Allowed Claims 1-45 of the ‘647 application are directed to methods of preparing a polymeric material. The claims of the instant application have not been rendered obvious in view of the method claims of the ‘647 application. Particularly, Feist and Ohgo, as previously discussed, do not render the claims obvious. The ‘647 method claims do not provide the additional teaching or suggestion of the required pitch or requisite motivation to combine or modify these references to use the material of Feist in a disk substrate having the particular pitch requirements of Ohgo.

Claims 46-49 of the ‘647 application are directed to articles including a data storage medium. These claims are not allowed. Therefore, the Applicants respectfully request removal of the provisional obviousness type double patenting rejections in view of these claims.

Accordingly, reconsideration and removal of the obviousness type double patenting rejections are requested.

Claims 1-21, 27-30, and 42-45 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-81 of copending Application No. 11/101833 (US 2005/0180284) (hereinafter “the ‘833 application”) in view of Feist and Ohgo. Applicants respectfully traverse this rejection.

As presented above, there was no motivation to combine Feist and Ohgo as they are directed to different thermoplastic materials used for a substrate. Allowed claims 51-81 of the ‘833 application are directed to a storage media comprising a plastic substrate, an optical layer, and a reflective layer. However, these claims do not teach or suggest a substrate having pitch sizes of 0.05 to 0.7 micrometer or where the substrate is substantially free of visible particulate impurities. Thus these claims provide no motivation to combine the materials of Feist with the narrow pitch range of Ohgo as they are directed to different substrate materials with no teaching that the materials are substitutable. Therefore, instant claims are not obvious over claims 51-81 of the ‘833 in view of Feist and Ohgo.

Accordingly, reconsideration and removal of the obviousness type double patenting rejections are requested.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance are requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 50-1131.

Respectfully submitted,

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